



## Method of Production of a Meat Product Containing Olive Oil

The present invention involves the production of goods based on meat with the main features being:

1. the use of olive oil instead of the usual practice of animal fat (fatty tissue);
2. the use of thin bonny muscular tissue (meat);
3. the addition of special subsidiary material; and
4. the help of appropriate technological procedures and process that are developed to:

- a solid emulsion – meat-paste of firm structure, apt to undergo any suitable caloric process, with a further target being the embodiment and firm connection of olive oil and after the coagulation of the proteins in the main system of the emulsion that consists of proteins / water / olive oil; and
- obtain the maximum possible maintenance of organic-receptive, scenic-chemical and nutrient features of the differentiation determinant **Olive Oil**.

## BACKGROUND OF THE INVENTION

Cooked pork meats of contracted meat constitute a structural “emulsion” with the participation of the essential ingredients of proteins of the meat, water (of the meat + additional water) and additional fat (pork fatty tissue).

The stability of the “emulsion” depends mainly, among other factors, on the connective ability of the meat used to retain water and to digest the additional fat.

Especially the muscular proteins and the salt-solvents (actinia, myosin and actomyosin) that represent the main part of (approximately 60%) of the muscular occiputs contribute to the stability of the “emulsion,” as in their hydrated condition they function as a protective frame of the embodied fat, which is the non-continuing phase of the “emulsion” and the main factor of their non-stabilization.

## SUMMARY OF THE INVENTION

The obtainment of a stabilized embodiment of the fat (fat-orbs) in the “emulsion” constitutes a technological target of this invention, which is faced with known combined techniques, which affect positively in this direction and include the adjustment of the parameters, such as the specific selection of meat, the regulation of PH of the meat, the quantity of additional salt, the use of subsidiary technology, the conditions of process – creation of meat-paste –, the timetable of caloric process and freezing of the final product, etc.

Nevertheless, the embodiment of olive oil, in comparison with the classic addition of pork fat, as long as it is tested with classic techniques, runs into difficulties of instability or created non-stabilized tendencies, not only of the “emulsion” of meat-

paste but also of the final products that usually shows the appearance of “de-oil.”

Consolidated well-known techniques of indirect embodiment of vegetable fats are known, which:

- 5           • include a procedure of preliminary caloric process of olive oil in levels of 100° C twice.

This is especially so in case of olive oil, whose role in nutrition of humans is distinctive among seed-oils and other vegetable fats, and also internationally renowned for its beneficial features of its vegetable ingredients (reference to Omega fat acids and their protective role, low cholesterol, toko-phenols and poli-phenols and their role),

Therefore, it is thought to be essential,

15       on one hand, that its participation as an ingredient of substitution of animal fat in cooked pork meats (products of caloric process of contracted meat) to be achieved under especially protective conditions, so that the maximum possible transfer of its characteristics on the hosting product could be secured; and

20       on the other hand, that the process of embodiment ensure the traditional technique of producing cooked pork meats, and that scientific facts will systematically be taken into consideration based on the characteristics of proteins, fats and oils as well as the potential of their in-between connection depended on these characteristics.

25       The fact that the stability of “emulsion meat” is affected by the following facts, must also be taken into account:

- the source and the composition of the embodied fat; and
- 30       • its scenic-chemical characteristics, such as:
  - the profile of fat acids (kind and degree of satiation)
  - the SFI (Solid Fat Index)
  - the relation of PUFA, MUFA / SUFA in the applicable temperatures in the different stages of production

35       It is obvious that from technological aspect the differences between pork fat and olive oil should be taken into consideration when creating a stable emulsion.

In the critical temperatures of production (0 – 4° C up to 71 ° C) but also in the temperatures of freezing (after caloric process) in addition to the later maintenance (3  
40       – 7° C) of the product, it’ s SFI has a very significant role.

In the case of olive oil, its characteristics presuppose embodiment under specific conditions, that consist of:

- the creation of the maximum possible embodiment of oil with mechanical process (mixture, similitude of the participated ingredients);
- 45       - the estimation of the ideal quantitative relation between these ingredients so that the maximum possible soaking and maintenance of oil in the emulsion at the same time with the maximum possible absorbance of additional water (relation fat /

- proteins, water of proteins; and
- the creation of a stable “waterproof” protein complex round the fat-orbs, without the application of high temperatures for the transformation of the proteins, with the application of mechanical process under selected conditions with the application of vacuum and temperature in the phase of mixture and degree of assimilation – with the maximum possible spreading and size of fat-orbs.

In the end, one significant aim is the insurance of a stable behaviour of the “emulsion” meat-paste in the phases of caloric process, the later freezing of the product, the behavior of the product in a possible cutting and packing in vacuum, and during the maintenance in conditions of freezing.

The aim of the present invention is the production of goods based on meat of caloric process (products of cooked pork meat – sausages – salamis of contracted meat):

- with direct in frost embodiment of olive oil and maximum possible substitution of animal fat;
- with the addition of combined subsidiary technology; and with
- the application of a special technological process.

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

This aim is achieved with the mixture of meat of low fat-content in frost with olive oil in combination with the use of vegetable proteins, milk proteins, poli-phosphoric salts, water and salt.

In this way, the present invention offers pork meats with olive oil and a method for their production with in frost mixture of olive oil, non-fat meat and water.

Thin-chopped non-fat meat of temperature  $0^{\circ}\text{C}$  is mixed with  $\text{H}_2\text{O}$  of temperature  $-2^{\circ}\text{C}$  in a mixture machine with simultaneous addition of salt. Next, is inserted poli-phosphoric salts, preservatives and spices. After all these are mixed added gradually are the vegetable proteins, the proteins of milk and starch. When the temperature of the mixture is  $2^{\circ}\text{C}$  inserted is the olive oil. The mixture continues with simultaneous application of vacuum 960 mBAR for 3 min, aiming to deduct the closed in the mixture oxygen in order to avoid oxidation. The mixture continues until the temperature is  $4^{\circ}\text{C}$ . The entire time of mixture is 15 min., and the absorbing power 26 KW. The mixture then goes to a filling machine where it is encased with simultaneous application of vacuum 1000 mBAR with absorbing power 7 KW, and later on, it is pasteurized in  $71^{\circ}\text{C}$ . The entire time of caloric process depends on the diameter of the product and ranges from 1 to 3 hours. After the pasteurization, the product is frozen in freezing chambers with temperature of  $-2^{\circ}\text{C}$  up to  $2^{\circ}\text{C}$ .

The pork meats with olive oil that are produced according to this invention, have an excellent stability as far as structure is concerned (compactness) due to the use of thin meat, application of low temperatures and their production in vacuum. The scenic-chemical features of olive oil, which these products have, remain unchangeable, because of the low temperatures, which are enforced during the productive procedure.